

REMARKS

By the present Amendment, claims 1-10 are cancelled and claims 11-20 are added. This leaves claims 11-20 pending in the application, with claim 11 being independent.

Substitute Specification

The specification is revised to eliminate grammatical and idiomatic errors in the originally presented specification. The number and nature of the changes made in the specification would render it difficult to consider the case and to arrange the papers for printing or copying. Thus, the substitute specification will facilitate processing of the application. The substitute specification includes no "new matter". Pursuant to M.P.E.P. § 608.01(q), voluntarily filed, substitute specifications under these circumstances should normally be accepted. A marked-up copy of the original specification is appended hereto.

Claim Objection

Original claim 1 is objected to as being informal. By the present Amendment, the originally filed claims have been rewritten to avoid the language alleged to be informal in the Office Action. All language of the presently pending claims is now believed to be clear and definite, and to comply with 35 U.S.C. § 112.

Rejections Under 35 U.S.C. §§102 and 103

Claim 11 covers a fluid cooling device comprising a drive motor 10, a rotatable fan wheel 12, a first fluid pump 14 or 16, a reservoir tank 20 and a heat exchanger 24. The fan wheel is driven by the drive motor. The fluid pump is driven by the drive motor and is mounted on a shaft line jointly with the fan wheel. The reservoir tank is formed of plastic material and contains a

fluid conveyable into a working circuit that heats the fluid in operation of the working circuit. Parts of the reservoir tank at least partially enclose the fan wheel and form a fan housing. The reservoir tank has a bottom-side trough part 30 and an upright-side trough part 32 seated on and extending vertically on the bottom-side trough part. The bottom-side trough part and the upright-side trough part are integrally connected and form a hollow collar 34 in which the fan wheel is rotatably mounted. The bottom-side trough part has a longitudinal extension equal to at least the overall length of a combination of the drive motor and the first fluid pump. The heat exchanger receives and cools fluid returning to the reservoir tank from the working circuit.

By forming the cooling device in this manner, the fan wheel, fluid pump and drive motor are aligned along a single shaft line and are integrated with the trough parts to enclose the fan wheel and, particularly with the bottom-side trough part to project in a manner to cover the fan wheel, pump and motor. This claimed arrangement creates an independent structural unit that is efficient in its structure and protects the fan wheel, pump and motor during assembly and operation and counteracts damaging vibrations.

Claims 1-4 and 6-9 stand rejected under 35 U.S.C. §102 as being anticipated by U.S. Patent No. 5,649,587 to Plant. The Plant patent is cited for disclosing a cooling device with a drive motor 72 rotating a fan wheel 14 where a reservoir tank at least partially encloses the fan wheel and forms a fan housing. The tank allegedly forms a hollow collar in which the fan wheel is rotatably mounted, with the hollow collar having first and second opening cross sections and the tank having at least two chambers and openings 40 and 42.

Claims 5 and 10 stand rejected under 35 U.S.C. §103 as being unpatentable over the Plant patent in view of U.S. Patent No. 6,871,697 to Albright. The Albright patent is cited for a

housing made of plastic and a larger opening cross section adjacent the heat exchanger. In support of the rejection, it is alleged that it would obvious to make the Plant housing by blow molding and plastic and to provide a larger opening cross section adjacent the heat exchanger.

The Plant patent considered along or in combination with the Albright patent, does not anticipate or render obvious the subject matter of claim 11 since it does not include a pump in the position claimed and does not include a bottom-side trough part from which the upper-side trough part extends and extends relative to the pump and motor, as claimed.

The Plant patent at best only discloses a cooling device having a rectangular hollow body with dual openings with cylindrical walls 22 and 23. A radiator 12 is located on one side of the hollow body. A fan 14 with a motor 72 is mounted in each opening. Each fan is driven by a motor 72. The fan and motor are supported by a bracket 64 such that the motor is located outside of and extends beyond the hollow body 18, as clearly illustrated in Figs. 3 and 4. No pump is cited as being disclosed. Thus, the Plant patent does not anticipate or render obvious the subject matter of claim 11, particularly relative to the claimed pump and the claimed bottom-side trough part extending at least over the length of the drive motor and first fluid pump.

The Albright patent is merely cited in connection with the use of blow molding of plastic to form a cooling device and providing a larger opening adjacent the heat exchanger. Although not specified, the Albright is apparently cited in connection with the tank 31 with its side tank portions 38 and 40 defining molded channel walls 38a and 40a in which fan 64 is received. However, such disclosures do not cure the deficiencies discussed above relative to the Plant patent.

None of the other cited patents cure the deficiencies noted with respect to the Plant and Albright patents.

Accordingly, claim 11 is patentably distinguishable over the cited patents.

Claims 12-20 being dependent upon claim 11, are also allowable for the above reasons. Moreover, these dependent claims recite additional features further distinguishing them over the cited patents. Claim 12 is further distinguishable by the first and second openings delimited by the hollow collar.

Claim 13 is further distinguished by the first cross-sectional area being larger than the second cross-sectional area and the tapering of the air guide surface between those openings.

Claim 14 is further distinguished by the first and second tank chambers at least partially separated from one another. No such tank chambers are disclosed or rendered obvious by the Plant patent.

Claim 15 is further distinguished by the first and second fluid pumps and first and second heat exchangers to provide for two fluids. No such arrangement is alleged to be disclosed in the cited patents.

Claim 16 is further distinguished by the tank openings, particularly within the overall claimed combination.

Claim 17 is further distinguished by the tank being formed by rotational molding. No such tank formation is disclosed. The cited patents only appear to disclose blow molding.


Claim 18 is further distinguished by a second pump driven by the motor drive and located between the drive motor and fan wheel. No arrangement one or two pumps relative to the drive motor and fan wheel is disclosed in the Plant or Albright patents.

Claim 19 is further distinguished by each of the bottom-side trough part and the upright-side trough part being substantially rectangular.

Claim 20 is further distinguished by the L-shape formed by the trough parts.

In view of the foregoing, claims 11-20 are allowable. Prompt and favorable action is solicited.

Respectfully submitted,



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